

ETHMIIDAE FROM THE AMAMI-GUNTŌ ISLANDS, SOUTHERN
FRONTIER OF JAPAN, COLLECTED
BY MR. T. KODAMA IN 1960

By SIGERU MORIUTI¹⁾

The material dealt with in the present paper was collected by Mr. TUYOSI KODAMA in April and May, 1960 on the islands of Tokunosima and Okinoerabuzima in the Amami-Guntō Islands. It includes three *Ethmia*-species: one is common in Japan, and the other two are recorded from Japan for the first time.

Acknowledgements: My sincere thanks are due to Prof. SYUSIRO ITO, of the Univ. Osaka Prefecture, for his constant encouragement and his kindness in reading the original manuscript; to Dr JOHN D. BRADLEY, of the British Museum (Nat. Hist.), for his kind help and advice in the identification of the Japanese Ethmiidae; to Mr. T. KODAMA for giving me the opportunity to study the material; and to Mr. KŌJI YANO and Miss AMY SUEHIRO for the loan of specimens in the Bernice P. Bishop Museum collection. I am also grateful to Emeritus Prof. SYŪTI ISSIKI for his useful suggestion.

1. *Ethmia assamensis* BUTLER, 1879, Trans. Ent. Soc. Lond., 1879 : 6 (*Hyponomeuta*). *hockingella* WALSINGHAM, 1880, Proc. Zool. Soc. Lond., 1880 : 90, pl. 12, f. 8, 9 (*Psecadia*). *okinawana* MATSUMURA, 1931, 6000 Ill. Ins. Japan: 1086, no. 2223 (*Symmoca*).

Specimens examined: 2♂ and 1♀, Kametu, Tokunosima I., 23-25 V 1960 (T. KODAMA), reared from *Ehretia ovalifolia* HASSKARL.

This species has a wide distribution and is known from Japan (West Honsyū, Sikoku and Kyūsyū), Okinawa, Formosa, Central China, Assam and Himalayas. In Japan it is a common species; bivoltine; larva gregarious, in a web on leaves of *Ehretia ovalifolia* HASSKARL (Boraginaceae) and *Meliosma myriantha* SIEBOLD et ZUCCARINI (Sabiaceae).

2. *Ethmia colonella* WALSINGHAM, 1907, Faun. Haw. 1 : 507, pl. 15, f. 6 (*Ethmia*). *apicalis* MATSUMURA, 1931, 6000 Ill. Ins. Japan: 1084, no. 2215 (*Psecadia*), n. syn.

The Japanese specimens have the wing expanse of 26-27 mm. Antennal ciliations in ♂ 1. Forewing slaty-grey with 16-18 black dots and 7 or 8 black marginal dots, the arrangement as illustrated (fig. 1). Hindwing yellow-ochreous, with a blackish-fuscous apical patch. Abdomen yellow-ochreous, with 7 black dots.

Male genitalia (figs. 3-7): Arms of uncus close each other and weakly bending ventrally. In the gnathos, posterior end (fig. 5) with 10 spines, the apical one of which is the largest, the basal is the smallest and the remaining four pairs are smaller basally; anterior part broad, without spines. Valva as shown in fig. 3; basal process long and rather narrow, set with short hairs. Lateral process of anellus with tiny teeth as illustrated in fig. 6. Aedeagus and cornuti as shown in figs. 3 and 7.

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Female genitalia (figs. 11, 12): Antrum sclerotized, with tiny teeth inwardly; ductus bursae a very long membranous spiral.

Specimens examined: 2♂ and 3♀, Kametu, Tokunosima I., 13-27 V 1960 (T. KODAMA), reared from *Ehretia* sp. (probably *E. Dicksoni* HANCE var. *japonica* NAKAI).

Originally described from Hawaii (Honolulu). The Japanese specimens have the much smaller apical patch on the hindwing than the Hawaiian ones. The former with the patch covering about 1/6, not reaching to the end of cell, as shown in fig. 1. Through the courtesy of Dr BRADLEY I have received his helpful advice and the following information on this species: "I have examined the genitalia of the male type of *Ethmia colonella* WALS. and made a comparison with your sketches. Essentially the spines or teeth on the gnathos are as in your sketch except that the pair of small teeth and the single tooth behind them (the most proximad teeth) are not evident in the type. However, I examined another male specimen from Hawaii and that differs slightly from the type in that the middle pair of teeth are as large as the big apical tooth. This seems to indicate individual variation in specimens. The tiny teeth on the anellus are present in the type but are perhaps a little more numerous. Again this is a character which can be expected to vary in specimens." I also have examined the Hawaiian specimens (1♂, Honaunau, 19 VI..... (J. G. STOKES); 1♀, Malaekahana, Oahu, 10 VII 1923 (B. C. BALL), reared from *Cordia*). In the male genitalia, the spines on the posterior end of gnathos are as follows:— the apical spine largest, the second pair (from distal) of spines slightly smaller than the preceding one, the third smallest and about the size of the first, the proximal three of a size evident and a little smaller than the second pair. Two male examples from Tokunosima are quite similar to each other in the spines on the gnathos and the teeth on the lateral process of anellus. Although the Japanese specimen differs slightly in the superficial appearance and the genital character from the Hawaiian one, I am convinced that the former is referable to *colonella*.

This species was also recorded by MEYRICK (1910, Trans. Ent. Soc. Lond., 1910: 460) from Kei Is. in New Guinea, and by MATSUMURA (*l. c.*) from Formosa and Okinawa under the name of *Psecadia apicalis*.

By the kindness of Professor ISSIKI, I have been able to examine the following two specimens of this species: 1♂, Heitō (=Pingtung), Formosa, 17 IX 1935 (S. ISSIKI), reared from *Ehretia buxifolia* ROXBURGH; 1♀, Kōtōsyō (=Hongtōu I.), Formosa, 10 III–14 IV 1920 (J. SONAN). The specimen from Pingtung has the wing expanse of 23 mm, and is slightly different from the Tokunosima specimen in the genitalia as follows:—on the gnathos, the first pair of spines equal in size to the third, the second largest, the proximal three obsolete; the apical spine cannot be examined (unfortunately broken at the base). The Hongtōu specimen is noticeably larger: 32mm.

3. *Ethmia duplicata* MEYRICK, 1914, Jour. Bom. Nat. Hist. Soc., 23 (1) : 130 (*Ethmia*).

Somewhat smaller than MEYRICK's original material from Ceylon: 25–27 mm instead of 30–32 mm; the Japanese specimen may be redescribed as follows. ♂ ♀. Head pale slaty-grey, with a black dot on crown, base of collar black. Palpus pale slaty-grey, median segment with black subbasal and subapical rings, terminal segment with black basal and subapical rings. Antenna: ciliations in ♂ 1/3; pale slaty-grey, apical 3/4 tinged with dark greyish, scape with a black dot

at each extremity above, pedicel black above. Thorax slaty-grey, a black dot on base of tegula, four black dots on back. Fore and middle legs whitish-slaty-grey and marked exteriorly with nearly black, the tarsi nearly black, basal segment with a whitish-slaty-grey ring at each extremity, the remainder with whitish-slaty-grey apical ring on each segment; hind femur pale yellowish-ochreous and largely suffused exteriorly with purplish-black, tibia yellow-ochreous, tarsus nearly black, each segment with a whitish-slaty-grey apical ring, except that the basal segment is ringed with pale yellow-ochreous basally and with much paler colour apically. Forewing: the shape as shown in fig. 2; slaty-grey, distal $1/5$ somewhat paler; 17-19 black dots situated as in other allied species; one in middle of base, two subcostal and median near base, one subcostal at $1/5$, one towards dorsum beneath this, one on fold beyond these, two discal and subdorsal before $1/2$, one on fold beyond $1/2$, one towards costa at $2/3$, one below middle beyond this, one towards costa at $4/5$, one supramedian beyond this, one below middle at $5/6$, sometimes one (very small) just below this, one towards costa near termen, three approximated in a transverse series above middle beyond this (the uppermost very small and sometimes absent, two lower sometimes confluent); besides these there are 10 or 11 marginal dots along posterior part of costa and termen; costal edge blackish towards base; cilia slaty-grey on the basal half, darker on the outer half. Hindwing yellow-ochreous, a blackish-fuscos apical patch covering about $1/4$ of wing, triangularly prominent near costa, lower angle slightly extended on termen; cilia pale yellow-ochreous, base concolorous with the wing, round apical patch fuscous. Abdomen yellow-ochreous, with two black dorsal spots posteriorly, in ♂ the spots very small or absent, beneath with two series of five or six black spots.

Male genitalia (figs. 8-10): Arms of uncus remote each other and strongly bending ventrad. In gnathos, the posterior part dilated, terminating in many upright spines; anterior part broad, edged with numerous small spines. Valva with a hairy broad basal process; dorsal distal portion dilated. In anellus lateral process without teeth or spines. Aedeagus and cornuti as shown in figs. 8 and 10.

Female genitalia (figs. 13, 14: Antrum sclerotized, with numerous small teeth from inner surface; ductus bursae membranous, spiral.

Specimens examined: 6♂ and 2♀, Wadamari, Okinoerabuzima I., 16-27 V 1960 (T. KODAMA), reared from ?*Ehretia* sp.

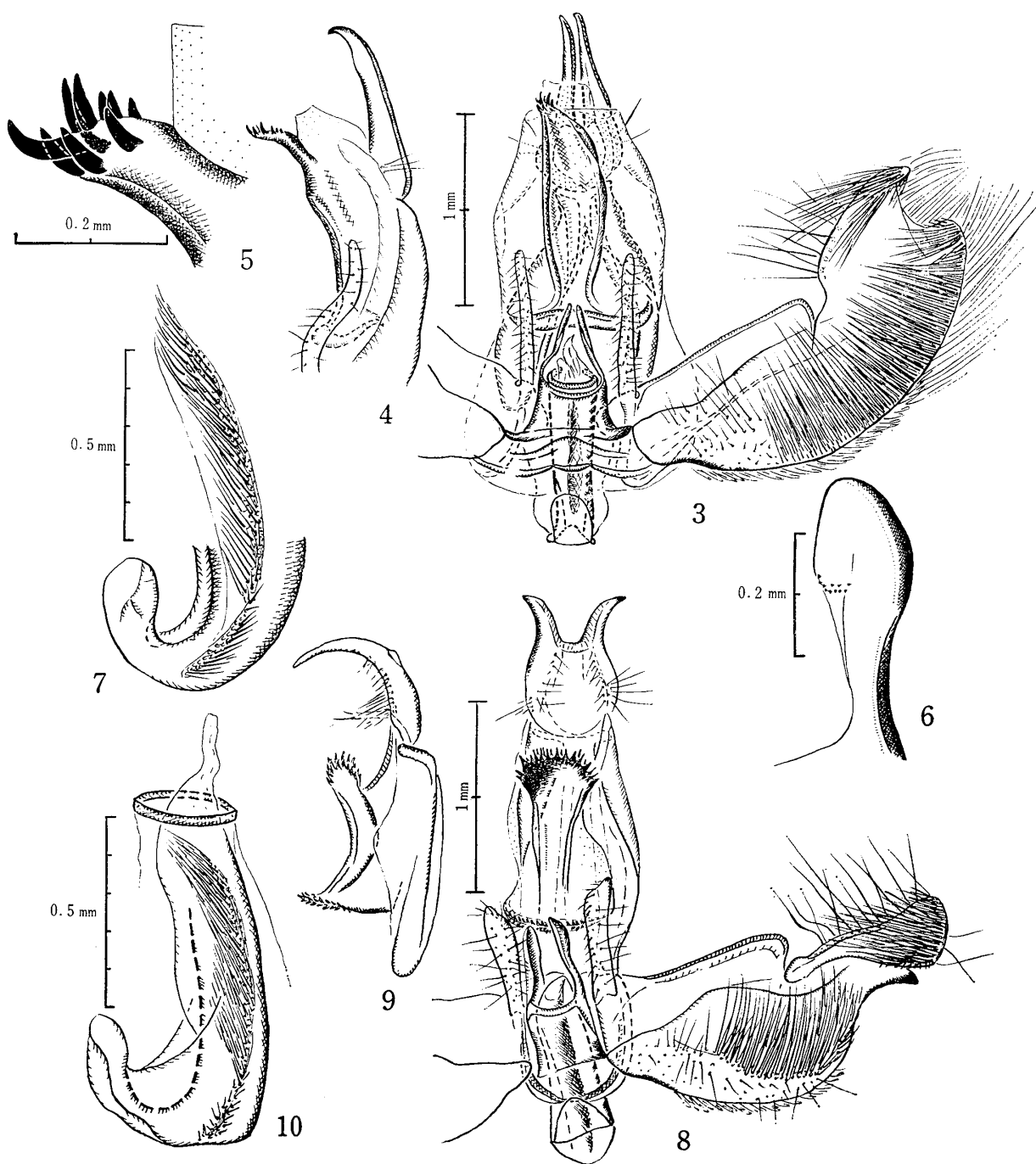
Closely related to *Eth. hilarella* WALKER (1864, Cat. Lep. Het. Brit. Mus., 28: 542 (*Azinis*)), which occurs in Ceylon and India. Dr BRADLEY kindly gave me the following information on this species: "B11 has uncus and gnathus similar to *hilarella* WALKER; valva quite different. In *hilarella* the hind wing of male has a broad black area (more than ♀)."

摘 要

1960年、奄美群島で児玉 行氏が採集された3種の広翅巢蛾を記録した。1種は我国に普通の *Ethmia assamensis* (BUTLER) チシヤノキオオヒロスガ。他の2種は同一 group の種で Indo-Australian region に数多くの近縁種があるが、大英博物館の Dr. BRADLEY の援助をうけて以下の如く同定した。

Eth. colonella (WALSINGHAM). Type-locality, ハワイへは寄主植物と共に入ったと考えられる。ニューギニア (Kei Islands), 台湾, 沖縄から記録されたが日本からは新記録。

Eth. duplicata MEYRICK. セイロンから記載されたこの種は腹部の黒点数で前種と容易に区別出来る。



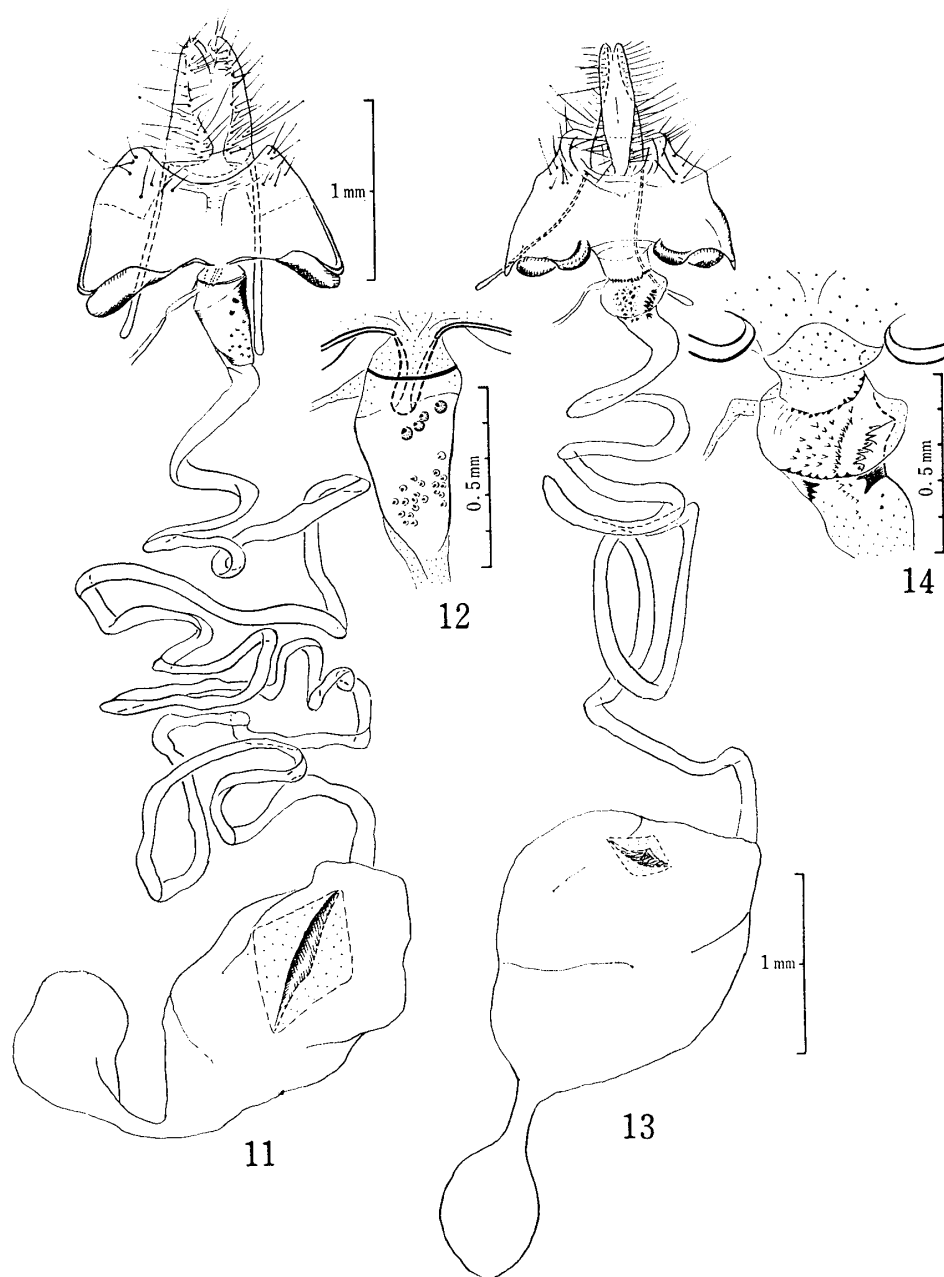


Fig. 1. *Ethmia colonella* (WALSINGHAM), ♀, ×2. Fig. 2. *Eth. duplicata* MEYRICK, ♀, ×2.

Figs. 3-7. *Eth. colonella* (WALSINGHAM), ♂ genitalia. (3) Ventral aspect. (4) Tegumen with uncus and gnathos, lateral aspect. (5) Posterior part of gnathos, lateral aspect. (6) Lateral process of anellus, lateral aspect. (7) Basal part of aedeagus and cornuti, lateral aspect. Figs. 8-10. *Eth. duplicata* MEYRICK, ♂ genitalia (8) Ventral aspect. (9) Tegumen with uncus and gnathos, lateral aspect. (10) Aedeagus, lateral aspect.

Figs. 11-12. *Eth. colonella* (WALSINGHAM), ♀ genitalia. (11) Ventral aspect. (12) Antrum, ventral aspect. Figs. 13-14. *Eth. duplicata* MEYRICK, ♀ genitalia. (13) Ventral aspect. (14) Antrum, ventral aspect.